

AMENDMENTS TO THE CLAIMS

1-16. (canceled)

17. (currently amended) A method for identifying a candidate agent as a compound that modulates ~~CENP-E~~ centromere-associated protein E (CENP-E) activity, said method comprising the steps of:

(i) providing a substantially purified biologically active CENP-E, wherein said CENP-E comprises a motor domain corresponding to amino acids 1-324 of SEQ ID NO:1;
_____ (ii) determining CENP-E activity of said substantially purified CENP-E in the presence of a candidate agent at a control concentration, wherein the CENP-E activity comprises at least one activity selected from the group consisting of plus end-directed microtubule motor activity, ATPase activity, and microtubule binding activity; and (ii) and
_____ (iii) determining said CENP-E activity in the presence of the candidate agent at a test concentration, wherein a change in activity between the test concentration and the control concentration of said candidate agent indicates the identification of a compound that modulates CENP-E activity.

18. (currently amended) A method of claim 17, ~~further comprising the step of isolating biologically active CENP-E from a cell sample~~ wherein said CENP-E is a recombinant protein.

19. (original) A method of claim 17, wherein the biologically active CENP-E is human CENP-E.

20. (original) A method of claim 17, wherein the biologically active CENP-E is *Xenopus* CENP-E (XCENP-E).

21. (currently amended) A method of claim 17, wherein the biologically active CENP-E comprises a motor domain of *Xenopus* CENP-E (XCENP-E) set forth as amino acids 1-324 of SEQ NO:1.

22. (currently amended) A method of claim 17, wherein the biologically active CENP-E comprises ~~an amino acid sequence of a XCENP-E motor domain of~~ Xenopus CENP-E (XCENP-E) set forth as SEQ ID NO:1.

23. (canceled)

24. (original) A method of claim 17, wherein said change in activity is a decrease.

25. (original) A method of claim 17, wherein said change in activity is an increase.

26. (canceled)

27. (currently amended) A method of ~~claim 26,~~ claim 17, wherein said compound is an antibody.

28. (original) A method of claim 27, wherein said antibody specifically binds human CENP-E.

29. (original) A method of claim 27, wherein said method further comprises modifying said antibody to be a humanized antibody.

30-34. (canceled)

35. (original) A method of claim 17, wherein said method is performed in a plurality and wherein said plurality of methods are performed simultaneously.

36-42. (canceled)

43. (new) A method of claim 17, wherein said biologically active CENP-E has plus end - directed microtubule motor activity and comprises an amino acid sequence having at least 70% sequence identity with amino acids 1-324 of SEQ ID NO:1.

44. (new) A method of claim 17, wherein said biologically active CENP-E has plus end - directed microtubule motor activity and comprises an amino acid sequence having at least 80% sequence identity with amino acids 1-324 of SEQ ID NO:1.

45. (new) A method for identifying a candidate agent as a compound that modulates centromere-associated protein E (CENP-E) activity, said method comprising the steps of:

(i) providing a substantially purified biologically active CENP-E, wherein said biologically active CENP-E has plus end -directed microtubule motor activity and comprises an amino acid sequence having at least 80% sequence identity with amino acids 1-324 of SEQ ID NO:1;

(ii) determining CENP-E activity of said substantially purified CENP-E in the presence of a candidate agent at a control concentration, wherein the CENP-E activity comprises at least one activity selected from the group consisting of plus end-directed microtubule motor activity, ATPase activity, and microtubule binding activity; and

(iii) determining said CENP-E activity in the presence of the candidate agent at a test concentration, wherein a change in activity between the test concentration and the control concentration of said candidate agent indicates the identification of a compound that modulates CENP-E activity.

46. (new) A method of claim 45, wherein said CENP-E is a recombinant protein.

47. (new) A method of claim 45, wherein the biologically active CENP-E is *Xenopus* CENP-E (XCENP-E).

48. (new) A method of claim 45, wherein the biologically active CENP-E comprises a motor domain of *Xenopus* CENP-E (XCENP-E) set forth as amino acids 1-324 of SEQ NO:1.

49. (new) A method of claim 45, wherein the biologically active CENP-E comprises *Xenopus* CENP-E (XCENP-E) set forth as SEQ ID NO:1.

50. (new) A method of claim 45, wherein said activity is plus end-directed microtubule motor activity.

51. (new) A method of claim 45, wherein said change in activity is a decrease.

52. (new) A method of claim 45, wherein said change in activity is an increase.

53. (new) A method of claim 45, wherein said compound is an antibody.

54. (new) A method of claim 45, wherein said method is performed in a plurality and wherein said plurality of methods are performed simultaneously.